

Amendments to the Specification:

Please replace paragraphs [0003], [0004], [0006], [0015], [0017], and [0026] with the following amended paragraphs:

[0003] For producing conductive traces in a semiconductor manufacturing process, for example, an aluminum-based film made of aluminum or aluminum alloy is first formed on a substrate with previously formed elements thereon, and then subjected to an etching procedure to remove undefined portion thereof. Thus, a desired pattern of the conductive traces is formed by the remaining metal film. The etch procedure is generally divided into two types: dry etch and wet etch procedures. The wet etch procedure is performed by using an etchant solution to etch off the undesired portion of the aluminum-based film. Whereas, the dry etch procedure utilizes plasma resulting from exciting one or more reactive gas such as chlorine (Cl₂) or chlorine-containing gases such as boron trichloride (BCl₃) to physically or chemically etch off the undesired portion of the aluminum-based film.

[0004] For a dry etch procedure of an aluminum-based film, since the aluminum-based film is etched in the presence of a chlorine-containing etchant gas, chlorine radicals are likely to attack the aluminum-based film to form aluminum chloride (AlCl_x) on the film. It is known that aluminum chloride readily reacts with water to form soluble aluminum hydroxide Al(OH)_x , which is a main factor ~~of~~ resulting in corrosion of the aluminum-based film. In order to prevent the dry-etched film from corrosion during a period of waiting for the next procedure (i.e. Q-time), one or more post treatments are required. These post treatments, for example, include carbon tetrafluoride/oxygen (CF₄/O₂) plasma treatment, gaseous water/oxygen (H₂O(g)/O₂) plasma treatment, hydrocarbonfluoride (C_xH_yF₂) deposition plasma treatment, ashing treatment and/or hot water rinse treatment, which are well known to a person skilled in the art. Although the above described post-treatments could somewhat overcome the problem of film corrosion, there still exist some drawbacks. For example, these post-treatments are troublesome and time-consuming, or might deteriorate the film.

[0006] It is an object of the present invention to provide a method for post-treating a dry-etched metal film, in which the treating ~~period~~ periods are largely reduced, so as to minimize the risk of film corrosion and increase throughput of manufacturing the metal film.

[0015] In accordance with another aspect of the present invention, there is provided a system for performing combined etching and stripping procedures of a metal film. The system comprises at least one dry-etching ~~chambers~~ chamber, at least one stripping and cleaning ~~chambers~~ chamber and a transportation device. In the at least one dry-etching ~~chambers~~ chamber, a substrate with a metal film is dry etched to form an unetched portion covered by a photoresist and an etched portion exposed from the photoresist. In the at least one stripping and cleaning ~~chambers~~ chamber, the photoresist on the unetched portion is removed by a stripping agent and a passivation layer is formed on the etched portion by reacting the stripping agent. And in the transportation device transferring, the substrate between the at least one dry-etching ~~chambers~~ chamber and the at least one stripping and cleaning ~~chambers~~ chamber.

[0017] In an embodiment, the system of the present invention comprises a load lock chamber and a transfer chamber between the at least one dry-etching ~~chambers~~ chamber and the at least one stripping and cleaning ~~chambers~~ chamber, and the transportation device transferring the substrate between the at least one dry-etching ~~chambers~~ chamber and the at least one stripping and cleaning ~~chambers~~ chamber through the load lock chamber and a transfer chamber.

[0026] Take a Ti/Al/Ti metal film composed of 500Å (Ti)/ 6,000Å (Al)/ 500Å (Ti) for example. In the prior art, when three dry-etching chambers are used, the time periods for performing main etching procedure, post treatment and discharging procedure are 170 sec, 60 sec and 10 sec, respectively. Thus, the tact time per substrate to finish the dry etch procedure and the stripping procedure is 94 sec. In accordance with the present invention, the time period for performing the post treatment by means of monoethanolamine (MEA) or other basic compounds is decreased to by 15 sec. That is to say, the tact time per substrate is only 79 sec,

and thus about 15-20 seconds are saved for processing each substrate. Based on an 80% equipment utility rate, the throughput of overall process is increased from 22.06k/month to 26.24k/month. It is of course that the time period for performing the post treatment is dependent on user's requirements. In particular, the conventional post treatment could be omitted, and instead, stripping agents are directly used to remove the photoresist and form a passivation layer simultaneously.